
MONTHLY REPORT
ON
THE PROGRESS OF THERAPEUTICS.

Edited for the Edinburgh Medical Journal.

No. XXX.—May 1877.

BY

W. HANDSEL GRIFFITHS, Ph.D., L.R.C.P.E.,

*Licentiate of the Royal College of Surgeons of Edinburgh ; Lecturer on Medical Chemistry
in the Ledwich School of Medicine, Dublin ; Corresponding Member of the Therapeutical
Society of Paris, and of the Pharmaceutical Society of St Petersburg ; Hon. Member
of the Ontario and Chicago Colleges of Pharmacy, etc. ; Librarian to the Royal
College of Surgeons in Ireland.*

WELLCOME INSTITUTE LIBRARY	
Coll.	Wellcome
Coll.	
No.	

MONTHLY

REPORT ON THE PROGRESS OF THERAPEUTICS.

By W. HANDSEL GRIFFITHS, Ph.D., L.R.C.P. Ed.,

Licentiate of the Royal College of Surgeons of Edinburgh; Lecturer on Medical Chemistry in the Ledwich School of Medicine, Dublin; Corresponding Member of the Therapeutical Society of Paris, and of the Pharmaceutical Society of St Petersburg; Honorary Member of the Ontario and Chicago Colleges of Pharmacy, etc.; Librarian to the Royal College of Surgeons in Ireland.

Reprinted from the Edinburgh Medical Journal for May 1877.

SALICYLIC ACID IN SCARLET FEVER.—Dr David J. Brakenridge was led to administer salicylic acid in scarlet fever on account of its antiseptic, antipyretic, and antirheumatic properties, and having read of the success which had attended the treatment of scarlet fever with salicylic acid by Dr F. Weber, Dr Julius Steinitz, and others.

The following is an analysis of nine cases so treated :—In some of the milder cases only one dose, of from 30 to 60 grains, was given in the twenty-four hours; in the severe cases two or three such doses were sometimes given in the same period. Two of the patients were males; seven females. Their average age was 21·6 years. The average duration of the disease before the treatment was commenced was 3·1 days. Dating from the outset of the disease, convalescence, with normal temperature, commenced, in one case on the fifth day, one on the sixth, one on the ninth, one on the tenth, two on the fifteenth, one on the twentieth, and one on the twenty-seventh. In only two very mild cases did the disease run its course without any complication. Albuminuria occurred in five of the seven remaining cases; in two it was slight; in three severe; and in two of the latter it was very persistent. In one of these last two cases the albumen appeared and disappeared at first with the use and discontinuance of the drug. In all of the five cases the albuminuria came on after the medicine had been commenced, and salicylic acid had been detected in the urine. In five cases there was marked delirium, which, in each case, followed the administration of the salicylate of soda, and ceased when its effects passed off.

In four cases rheumatism occurred. It is remarkable that, whereas in one case the rheumatism had been present for some days before the salicylate was administered, and was evidently benefited by the drug, in the remaining cases it was not present when the medicine was commenced, but came on during and notwithstanding its administration. In two cases severe pharyngitis and tonsillitis occurred. Epistaxis came on the day after the treatment was commenced in one case. Dropsy also occurred in one case. Profuse perspiration followed the administration of the salicylate in every instance. The drug, as a rule, reduced both the temperature and the pulse, but the reduction was very temporary, and the duration of the fever was evidently lengthened rather than shortened by the treatment.—*Med. Times and Gazette*, 2d Dec. 1876.

SALICYLIC ACID IN TYPHOID FEVER.—At a recent meeting of the Biological Society of Paris, M. Robin asserted that, in typhoid fever, salicylic acid diminishes the quantity of urine, and that it causes an increase in the quantity of indican. He affirms that it produces ulceration of the back of the throat and consecutive œdematous inflammation of the larynx. He states that in typhoid fever very dilute solutions of the acid should be given for fear of diminishing the flow of urine. M. Leven affirms that it is powerless in small doses, and that it causes dangerous derangements of the digestive system. M. Lepine finds that it is very slightly excreted in typhoid, and he found with M. Robin that it sometimes produces a buzzing in the ears, not so intense, however, as that caused by quinine.

In the *Lancet*, 4th Nov. 1876, Dr Cavafy records a case of enteric fever in which the value of salicylate of soda as an antipyretic was well illustrated.

SALICYLATE OF SODA IN INTERMITTENT FEVER.—P. K. Pel has employed salicylate of soda in thirteen cases of intermittent fever. Of these only three were cured, in four a transitory improvement was effected, and in the remaining six no benefit was derived from it. The doses were from a drachm to half an ounce, with phosphate or bicarbonate of soda.—*Deutsch. Archiv. f. Klin. Med.*, B. xvii. p. 314.

SALICYLATE OF SODA IN DIABETES.—Ebstein of Göttingen first suggested the use of salicylate of soda in diabetes. Dr Müller-Warneke of Kiel has lately treated two cases with this drug, and draws the following conclusions from his observations. Salicylate of soda can completely remove the symptoms of diabetes mellitus, but its action is not always permanent. The symptoms disappear more rapidly the larger the dose that is administered, and the longer it is continued. In moderate daily doses (9 to 10 grammes), its initial influence on the diabetic process appears to become gradually exhausted, whereas large daily doses (14 to 16 grammes)

exert an increasingly powerful effect on it. The drug may be administered in large daily doses for a long period without any special disturbance of the general health; but any symptoms of poisoning which may appear rapidly subside on discontinuing its administration. Salicylate of soda but slightly irritates the kidneys in diabetes even after prolonged use.—*Berliner Klin. Wochenschrift*, Nos. 3 and 4, 1877.

SALICYLATE OF SODA IN GOUT, ETC.—Dr C. Kunge recommends salicylate of soda for the rapid relief of pain in gout. In two cases a single dose of one drachm was followed in three hours by complete cessation of pain.—*Deutsche Zeitschr. für prakt. Med.*, No. 28.

Dr L. Hoffman also found it very efficacious in gout of the hands and feet, and he has used it successfully in sciatica, tic douloureux, and intercostal neuralgia. He gives $7\frac{1}{2}$ grains in a gelatine capsule every hour.—*Berliner Klin. Wochenschrift*, No. 34.

Dr Bade states that he has found that salicylate of soda will relieve the pain of mastitis.—*Allgemeine Med. Central-Zeitung*, No. 61.

SALICYLATE OF IRON AS AN ASTRINGENT ANTISEPTIC.—In the February number of this Journal, Mr Robert Kirk calls attention to the value of salicylate of iron as an astringent antiseptic. On adding salicylate of soda to a saturated solution of sulphate of iron, a solution results, consisting of salicylate of iron and sulphate of soda; it is of a bright claret colour, odourless, and with hardly any irritant properties. The cases in which it was applied were generally open sores with an unhealthy action. Progress towards recovery was very rapid after the first few days.

NAUSEA FROM SALICINE: ADMINISTRATION OF THE ACID.—In the *Lancet*, 20th January, Mr Erskine Stuart writes corroborating Mr Sircar's observation as to the nauseating effects of salicin. Ten grains of the salicin induced considerable sickness, while as much as two scruples of salicylic acid produced no gastric disturbance, and no bad symptoms, except the specific catarrhal action on the throat, and constipation. He recommends the following formula for the administration of the acid:—Salicylic acid, bicarbonate of potash, of each three drachms, water to six ounces; a tablespoonful to be taken every two hours. It should be freshly prepared, as it speedily becomes putrid if exposed to the air. He has never found any painful condition of the throat to follow the use of the acid administered thus." Mr Stuart adopts Professor Binz's theory as to the mode of action of the salicylates of potash and soda. He believes that when they reach the tissues, the carbonic acid evolved in the tissues lays hold of the base, and sets free the salicylic acid, which thus exerts its antiseptic influence.

EFFECT OF SALICYLIC ACID ON CHILDREN.—The *Medical*

Times and Gazette, 13th January, quotes from a recent number of the *Nordiskt Medicinskt Arkiv*, a communication from Professor Abelin relative to the toxic effects produced by salicylic acid in young children. In cases of diarrhoea with offensive stools it was given on a large scale, and, except in modifying its offensive odour in a slight degree, it was not found to exert any beneficial effect. As an antipyretic, it produced a definite effect in a great number of cases, but, when given in a dose large enough to produce a lowering of temperature from 2° to 4° , was badly tolerated, and produced serious symptoms and great depression. In a dose of about $12\frac{1}{2}$ grains to $15\frac{2}{3}$ grains it acted on an infant at the breast as a violent poison. It has a very irritant action of the mucous membranes of the mouth and pharynx, and prevents the child from swallowing and sucking. It produces rapidly a lowering of more than 5° F., a considerable amount of collapse, irregular respiration, altered skin functions, and a strong fluxion of blood to certain viscera. To sum up, Professor Abelin is of opinion that in young children the use of salicylic acid must be very restricted. In a dose of 12 or 15 grains it acts as a corrosive poison, in smaller quantities it lowers the temperature without acting beneficially on the course and symptoms of the malady.

In the *British Medical Journal*, 30th December, Dr A. M. Weir publishes a case illustrative of the sleeplessness and disturbed state of the nervous system following the prolonged use of salicylic acid.

FORMULÆ FOR ADMINISTRATION OF SALICYLIC ACID.—The following is the formula recommended by Dr George F. Duffey as being palatable, and unlikely to cause the burning sensation in the throat and gastric irritation which often attend the administration of salicylic acid in large doses:—

R Acidi salicylici, gr. 120.
Liq. ammon. acetatis, ℥ii.
Aquæ, ℥vi.

Fiat Mist., and give one-eighth part (gr. xv. of salicylic acid) every hour.—*Brit. Med. Jour.*, 4th November 1876.

In the same Journal for 9th December, Dr P. A. Young states that he uses acetate of potash as a solvent for salicylic acid, and that the addition of aqua carui to this solution forms a palatable mixture. Two parts of salicylic acid are freely soluble in water on the addition of three parts of acetate of potash, or four parts of citrate of potash. The solution in acetate of potash does not give off the vapour of acetic acid on boiling, and free salicylic acid may be extracted from it by sulphuric ether, hence probably no decomposition takes place.

TOXICOLOGY OF ARSENIC.—In a paper recently published by M. Rouyer, and quoted in *New Remedies*, November 1876, he states the following as the conclusions to be drawn from his researches:—

I. ARSENIOS ACID.—A. *Introduced into the Blood*.—1st, Very small doses suffice to cause symptoms of poisoning to appear: 0·0006 gramme to each kilogramme in the weight of the animal. 2d, Grave symptoms of poisoning, and sometimes death, take place when 0·0023 gramme per kilogramme is injected into the blood. 3d, Death is certain when the dose absorbed reaches 0·003 gm. per kilogramme. 4th, Death takes place in the space of from twenty-four to thirty-five hours when 0·0025 gm. are given, and in eight hours when the dose is 0·003 gm. B. *In the Stomach*.—1st, 0·06 gramme of arsenious acid in solution to the kilogramme of the weight of dogs injected into the stomach is enough to cause death in nearly all cases. 2d, The dose of 0·07 gm. to the kilogramme is certain to cause death. 3d, If poisoning supervened only on administration of a stronger dose it was much more rapid, and this being relative to a particular condition in dogs which throws off the poison too quickly. 4th, In poisoning by the average dose of 0·06 gm. death ordinarily takes place at the end of twenty-four hours.

II. ARSENIATE OF SODA.—A. *In the Blood*.—1st, The true poisonous dose is 0·005 gm. to the kilogramme. 2d, Below this dose grave symptoms appear without causing death. 3d, The duration of these symptoms is from twelve to twenty hours. B. *In the Stomach*.—The dose of 0·015 gm. brings on symptoms of poisoning, but does not always cause death, which, when it does, takes place from twenty-four to thirty hours after.

III. ARSENIATE OF POTASH.—A. *In the Blood*.—1st, The poisonous dose is 0·003 gm. per kilogramme. 2d, In this case death supervenes at the end of seven hours. B. *In the Stomach*.—1st, The poisonous dose is 0·03 gm. per kilogramme, and death takes place in from six to seven hours.


Antidotes of Arsenic.—(a.) Hydrated sesquioxide of iron recently prepared (gelatinous and brown) is an antidote for arsenious acid, but not for arseniate of potash or of soda. (b.) At a longer interval than an hour it is useless to attempt recovery from poisoning by arsenic. (c.) For arseniate of potash and arseniate of soda the author proposes perchloride of iron in conjunction with magnesia. (d.) The mode of administration is the officinal solution of the perchloride of iron, and half an hour after magnesia in the proportion of a drachm to 3¼ fl. oz. of the perchloride. (e.) The perchloride of iron and magnesia is also an antidote for arsenious acid. Therefore it is preferable to employ it always in cases of poisoning by arsenic or its compounds. (f.) An hour after the administration of the antidote it will always be well to employ a purgative in order to expel the ferrated arseniate which is formed, and as this arseniate is soluble in acids, to avoid acid drinks and lemonades.

M. Marmé found that, without exception, in all his experiments arsenious acid proved more rapidly fatal than arsenic acid. The fact is against Monck and Leyden's view, that arsenious acid in the blood is oxidized to arsenic acid, and that only as such it dissolves

the blood-corpuscles and causes fattening of various tissues and organs. It is probable that when arsenic acid is introduced into the blood it is reduced to arsenious acid, and therefore its action appears more slowly.—*Nachrichten von der Königl Gesellschaft der Wissenschaften*, quoted in *Lond. Med. Rec.*, 15th August 1876.

In a report on Medico-legal Returns in the *Indian Medical Gazette*, 1st April 1876, Mr Robert Harvey draws attention to the frequency with which the endo-cardium is congested or ecchymosed after arsenical poisoning; the left ventricle is most frequently affected. The experience of Drs Bonaria and M'Reddie that the ecchymosed spots are most common near, but not on, the fleshy columns. Briend gives the valves and fleshy columns of the most frequent sites.





Digitized by the Internet Archive
in 2021 with funding from
Wellcome Library

<https://archive.org/details/s5303id1397866>

